Window Industry Support for Energy Codes in Texas

Bill Prindle

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Efficient Windows Collaborative

Revised April 2000

EWC Goals

- Double market penetration of efficient fenestration products
- Help make NFRC labeling near-universal
- Educate the industry and market audiences on efficient technology
- Support Energy Star Windows

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Who is the EWC?

Glass & Window Manufacturers

Testing Laboratories

Utilities & Municipalities

Fabricators & Extruders

Trade Associations

Other non-profit organizations

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Lead Roles in the EWC

- Alliance: lead communications/ marketing activities
- LBNL: lead technical support efforts
- University of Minnesota/Carmody: information products & technical support
- Members: guide activity focus, support EWC activities

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EWC Program Activities

Technical Activities/Research

Tools and Publications

Communications

Codes and Standards

Financing

Partnership Development

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Windows and the IECC

- The IECC originally focused on saving heating energy
- Cooling energy use exceeds heating use in most parts of Texas
- Windows are the largest source of peak cooling loads
- The IECC contains a specific requirement for solar heat gain control through windows

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Benefits of IECC Solar Heat Gain Standards

- Major reductions in cooling electricity use: estimated in the 20-30% range
- Significant reductions in air pollution emissions
- Major consumer savings in utility bills
- Improved consumer comfort

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Calculating the Benefits of Solar Control Windows

Both Base house and IECC house:

- 2000 square feet
- 300 square feet of window area, equal orientations
- Air-source heat pump
- Other energy features meet IECC standards

Only difference is window glazing

- Both have double pane aluminum windows
- Base house uses clear glass, IECC house uses solar control low-e

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Calculated Savings from Solar Control Windows

Results of the RESFEN analysis:

- 24% savings in cooling usage and costs
- .5 kW reduction in peak cooling load
- Permits about a half-ton reduction in cooling equipment sizing
- Equipment savings help offset window cost

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Aggregate Cooling Impact Potential of the IECC in Texas

Utility Peak Load Avoidance

.5 kW X 100,000 homes per year =

500 MW of capacity after 10 years

Pollution Reduction (cooling energy)

850 kWh per home X 100,000 homes =

850 million kWh/yr after 10 years

= about 4,000 tons of NOx annually

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Industry-based Support for IECC Adoption

- EWC members provided advocacy support during the legislative process, and in initial training and promotion activities
- Glass companies are working closely with Texas window manufacturers to help make the transition to low-solar-gain technology
- EWC members are supporting monitored demonstration projects in Houston and elsewhere
- Training will be available through Texas-based experts including Texas A&M, TBEI, plus the Building Codes Assistance project, Pacific Northwest National Laboratory, and EWC members

EWC's Relationship to other Public/Private Programs

NFRC

- EWC is separate from NFRC
- Membership overlaps

Energy Star Windows

•EWC supports Energy Star with education

•EWC also conducts broader activities; non-Energy Star products

Texas Window Initiative

•EWC supports TWI via web, print, training

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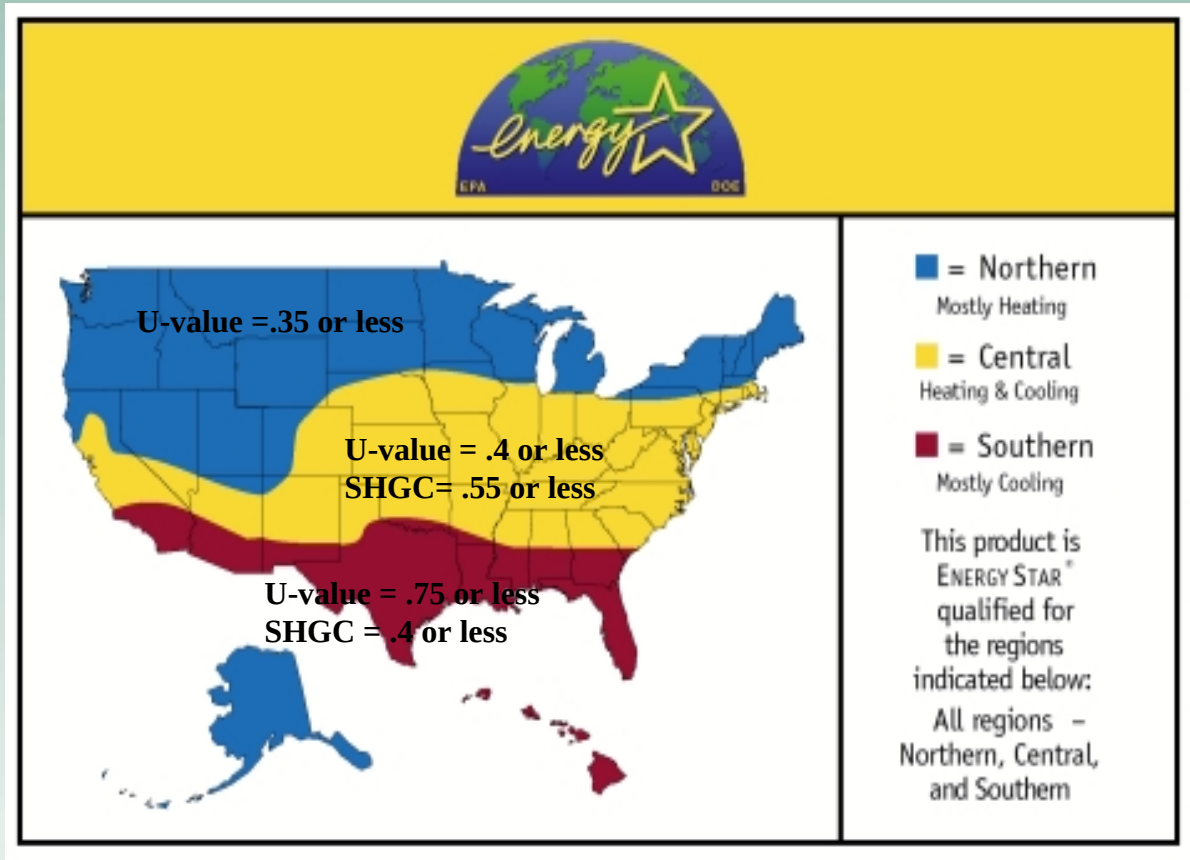
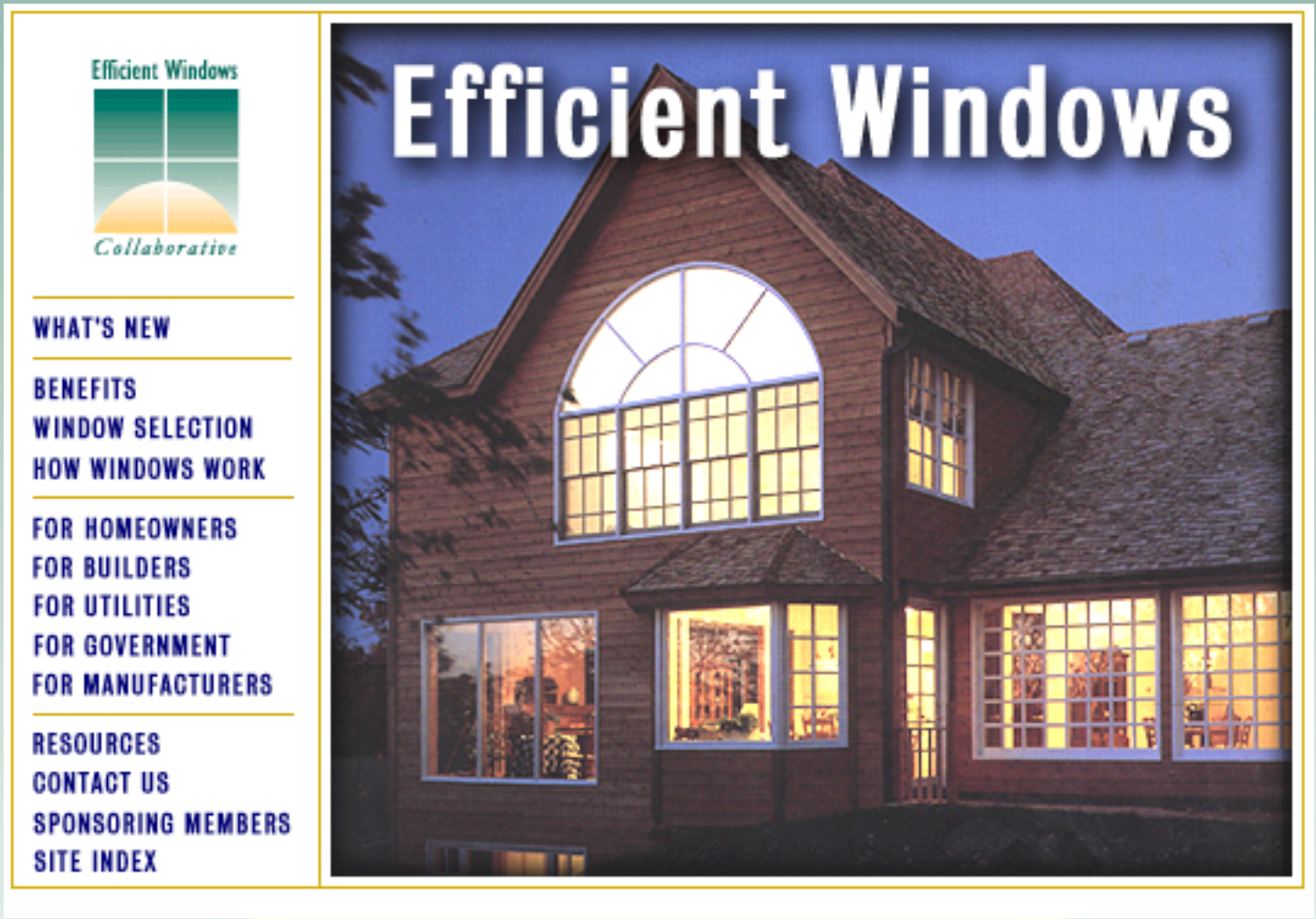
Look for the Energy Star® Label



Look for the NFRC Label



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